Light Modulation System

H.F. Reimann
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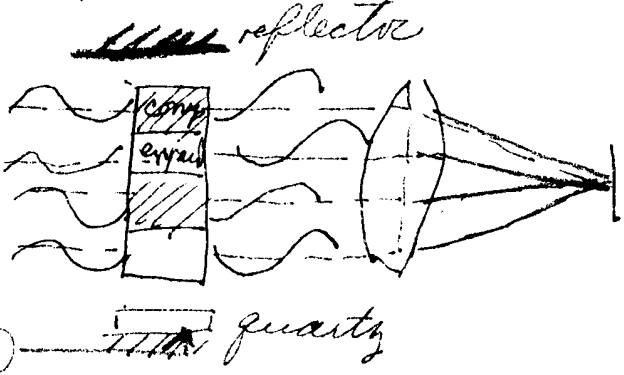

$$\frac{c}{n+\Delta n} = \Delta V \pm V \qquad \Delta n = \frac{c}{\Delta V \pm V} - n = \frac{c - n\Delta V \mp nV}{\Delta V \pm V}$$

$c = c_0 = 3 \times 10^{10}$ cm/sec.
$V = V_0$, permittivity.

$$V = \frac{1}{\sqrt{\mu\epsilon}}$$

$$\Delta n = \frac{c - n\Delta(\mu\epsilon)^{-1/2} \mp n(\mu\epsilon)^{-1/2}}{\Delta(\mu\epsilon)^{-1/2} \pm (\mu\epsilon)^{-1/2}} =$$

$$\frac{c - \frac{n}{\Delta\mu\epsilon^{1/2}} \mp \frac{n}{\mu\epsilon^{1/2}}}{\frac{1}{\Delta\mu\epsilon^{1/2}} \pm \frac{1}{\mu\epsilon^{1/2}}} = \frac{\frac{c\mu\epsilon^{1/2}\Delta\mu\epsilon^{1/2} - n\mu\epsilon^{1/2} \mp n\Delta\mu\epsilon^{1/2}}{\mu\epsilon^{1/2}\Delta\mu\epsilon^{1/2}}}{\frac{\mu\epsilon^{1/2} \pm \Delta\mu\epsilon^{1/2}}{\mu\epsilon^{1/2}\Delta\mu\epsilon^{1/2}}} =$$

$$\frac{c(\mu\epsilon)^{1/2}\Delta(\mu\epsilon)^{1/2} - n(\mu\epsilon)^{1/2} \mp n\Delta(\mu\epsilon)^{1/2}}{(\mu\epsilon)^{1/2} \pm \Delta(\mu\epsilon)^{1/2}} =$$

$$\boxed{\frac{(c(\mu\epsilon)^{1/2} \mp n)\Delta(\mu\epsilon)^{1/2} - n(\mu\epsilon)^{1/2}}{(\mu\epsilon)^{1/2} \pm \Delta(\mu\epsilon)^{1/2}}}$$